



The Halifax Amateur Radio Club

REFLECTOR

2050 Hammonds Plains Road
Hammonds Plains, NS
B4B 1P3

June 2023, Volume 84 Number 6

club web site is www.halifax-arc.org



The ARRL Field Day is June 24 & 25 with some set up on Friday June 23 – come out to help set up and operate.

HARC Club Station phone number - 902-490-6421

Executive

President - John Bignell, VE1JMB	223-1945	johnmbignell@gmail.com
First V.P. - Jason Ingraham, VE1PYE	292-9924	VE1PYE@bellaliant.net
2nd V.P. - Ritchie Long, VE1RL	410-7167	VE1RPL@gmail.com
Secretary - Ray Armstrong, VA1RAY		VA1RAY@outlook.com
Treasurer - Alastair Cox, VE1PAB		coxaf@eastlink.ca
Member-at-Large: - Bill Simm, VA1ALW		williamrham@live.ca
Station Manager: - Don Trotter, VE1DTR		don_trotter@hotmail.com
Past President - Brian Allen, VA1CC	489-4656	basailor@eastlink.ca
Director Emeritus - Bill Elliott, VE1MR	865-8567	bowser.elliott@ns.sympatico.ca

Committees/Offices/Prime Contacts

Government & Media Relations - Gary Murphy VA1GGM, 461-9416

QSL Bureau Mgr - Roger Stein, VA1RST	403-3738	garygmurphy@gmail.com
EMO Coordinator - David George, VE1AJP	466-8723	burch.craft@gmail.com
EMO Trailer coordinator - VACANT		dgeorge@dal.ca
Reflector editor - Lynn Bowser, VE1ENT	865-8567	bowser.elliott@ns.sympatico.ca
Reflector Hardcopy Dist. - Jeremy Fowler, VE1JHF	240-4302	ve1jhf@gmail.com
Membership - Tim Delaney, VA1TIM	890-6772	va1tim@rac.ca
Reflector PDF Dist. - Tim Delaney, VA1TIM		va1tim@rac.ca
Web site content Manager - John Bignell, VE1JMB		johnmbignell@gmail.com

Basic ham course - **Vacant**

2023 Flea Market Chair - Doug Henry, VE1ZG	doug.henry1@gmail.com
2023 Field Day Coordinator - Clayton Moore, VE1MJF	clayton.moore902@gmail.com
Safety Officer - Malcolm MacDonald, VA1MMD	malcolmm1@gmail.com
VA1MMA Project Manager - Dick Grantham, VE1AI	rgrantham@ns.sympatico.ca
NSARA Director - Jason Ingraham, VE1PYE	292-9924 VE1PYE@bellaliant.net
Honorary Legal Counsel - Paul Radford, VE1ARH	

Non Club Contacts

RAC Atlantic Director - Al Penny, VO1NO	dir.atlantic@rac.ca
RAC Section Manager - Dave Hull, VE1HUL	d.hull@ns.sympatico.ca
RAC Assistant Director for HRM - John Bignell, VE1JMB	johnmbignell@gmail.com

All phone numbers must be preceded by area code 902 when dialling, unless otherwise indicated

The June 2023 General Meeting of the Halifax Amateur Radio Club will take place Wednesday June 21 at 1900 . The method (**hybrid – in person at the club and virtual**) the details will be sent in an e-mail. Check your e-mail for details as the date approaches. Also check the web site for any other updates.

Presentation will be Field Day planning.

Guests are welcome in person or need to send an e-mail to the club to be on the ZOOM invitee list.

Photos in this edition are by John Bignell, VE1JMB

Felt uncomfortable driving into the cemetery. The GPS blurted out "You have reached your final destination."

Deadline for submissions to the September Reflector is Saturday September 9, 2023.

Take-15 Net Controllers

This will be the rotation. **We still need more net controllers. If you want to join**, let Bill Elliott, VE1MR, know.



June 18 Earl VE1EPJ	Aug. 6 Jeremy VE1LAI
June 25 Robert VE1RSG	Aug. 13 Ken VE1PDL
July 2 Jeremy VE1LAI	Aug. 20 Cam VE1BIT
July 9 Ken VE1PDL	Aug. 27 Earl VE1EPJ
July 16 Cam VE1BIT	Sept. 3 Robert VE1RSG
July 23 Earl VE1EPJ	Sept. 10 Jeremy VE1LAI
July 30 Robert VE1RSG	Sept. 17 Ken VE1PDL

ATTENTION

We are still in need of net controllers. The net is excellent practice for running an emergency net and usually takes about 20 or 30 minutes. Contact Bill, VE1MR to join the list. bowser.elliott@ns.sympatico.ca

GENERAL INFORMATION



Sunday evenings:
TAKE-15 NET at 8:30 PM
CLUB REPEATERS:
VE1PSR - 147.270 MHz + TX=82.5
VE1PSR/UHF - 444.350 MHz +
VE1PSR/6M - 53.550 MHz -
access and TX tone 151.4 Hz
VE1HNS - 146.940 MHz - TX=82.5
PACKET: VE1NSD 145.050 MHz
LAN NODE

Events for Your Calendar

June 24-25 – The ARRL Field Day
 July 1 – RAC Canada Day Contest
 July 19 – Pizza night at Station 50
 July 29-30 – IOTA contest
 August 16 – Pizza night at Stn. 50
 August 18-20 – HARC 90th Anniversary
 August 19-20 – International Lighthouse Lightship Weekend
 Sept. 23-24 – Trout Lake Rally
 October 20-23 – Jamboree on the Air with Scouts Canada

TechTalks

We are starting to think about presentations for the fall meetings. If you have ideas or topics, please send them along to the events@halifax-arc.org email address. If you have an interesting topic that you like to present, we'd love to hear from you.

HARC has a stock of **Anderson Powerpole connectors** for sale at \$15 for a bag of 10 - (\$1.50 ea for a red & black connector & contacts for one complete end). To make a complete mating pair will require 2 connectors. If you have not already converted all your gear to Powerpole connectors you should consider doing so. Installation instructions included & are also in the 2012 Callbook.

Contact Fraser, VE1WO – fmac@eastlink.ca

Or Bill, VE1MR – bowser.elliott@ns.sympatico.ca

HARC's Program for the 90th Conference and Gala Dinner Takes Shape

The program for the 90th Anniversary Conference continues to come together. This month we are giving everyone some insight to the excellent speakers and presentations they can expect to see.

The highlight for the Gala Dinner will be a talk from RAC President Phil McBride on 'The Future of Amateur Radio in Canada and Abroad.'

RAC has chosen to celebrate their 30th year with us here in Halifax. On Saturday they will hold their President's Fireside Talk with the presidents of RAC, ARRL and the IARU. Later in the afternoon all attendees are invited to attend their 2023 AGM.

As for formal presentations the list continues to develop. Each presentation will be 30 to 60 minutes in length. Presenter. The running list includes:

Brian Allen, VA1CC past president of HARC will delivery a talk on **Contesting**

Fred Archibald, VE1FA well known to HARC members through his training courses and many talks throughout the region will speak on Air-Sea Rescue in WW2 and the **"Gibson Girl" Radio**

Matt Boyle, VE1BSG, Director of Public Safety and Field Communications at Service Nova Scotia and Internal Services who has been extremely busy these past few weeks will present on **Emergency Communications (for the Maritimes)**

Amanda Christie, VE9OHM a scientist and researcher will amaze us with a talk titled Making Art with **Electromagnetic Spectrum**

David George, VE1AJP HARC member who has entertained the club in the past with great presentations will deliver a talk titled **Answering the Call**, a historical review of the some of the key Public Service and Emergency events that have defined and advanced amateur radio in HRM over the past 40 years.

Dave Goodwin, VE3KG RAC's Regulatory Affairs Officer talk is tentatively titled **The Remarkable International System of Amateur Radio Governance.**

Gerry Hull, VE1RM/W1VE past member of HARC who will be vacationing in the region in August has agreed to do a talk on **Remote Operating A-Z: From your own Shack or DXpeditioning**

Bill Karle, VE1YY and Jason Ingraham, VE1PYE, HARC members will expend our knowledge with a talk titled **Now That You Can, Try the 630m Band.**

George Nicholson N4GRN/VE1GRN another past HARC member who is vacationing in Nova Scotia this summer will cover the **Wild Side of Exotic Dxpeditioning**

Al Penney, VO1NO HARC member and RAC Director of Atlantic Region is debating which presentation he will deliver, Chase-Me-Charlies presentation or a presentation on the **use of Radio in the Search for Amelia Earhart.**

MWO Nathaniel Senff, (VA7SNF) HF Radio Specialist with Joint Task Force (Pacific) Headquarters will update on CAF's work on **Rebuilding Domestic HF Capabilities through CFARS**

In addition to the more formal talks, we hope to have several smaller, more practical, hands-on talks covering topics of interest to all. These would be shorter (less than 30 minutes) and allow for more discussion from attendees. Topics might include, 72-hour emergency kit; 3D Printing for Ham Radio; Kit building; Satellite Station Operation; and Radio Restoration.

Tickets are available on the HARC website. If you are uncomfortable with online systems, please reach out via the events@halifax-arc.org email address. We can accommodate you. The Full Conference and Gala Dinner ticket is a steal at \$80. Attendees will have access all three days including the optional tour or service, lunch on Saturday and of course the Gala Dinner on Saturday night. The 2-day conference ticket at \$35 gets access to 10 or more presentation, demonstrations, vendor areas and Saturday lunch. Tickets for the Gala Dinner are \$50 per person.

PRESIDENT'S MESSAGE for May 2023**A New Chapter Begins: Embark on a journey to rebuild the Radio Room.**

As your President, I find myself reflecting on my early days in the fire service as a young adult, and it fills me with nostalgic memories. During those transformative years, I engaged deeply in conversations with fellow firefighters, delving into the intricacies of emergency calls and experiencing a profound sense of pride in our collective efforts. The radio room stood out as a cherished sanctuary among the various spaces that held a special significance for me at the Firehall. Positioned strategically, overlooking the apparatus room of the station, it exuded an indescribable aura that transcended its modest appearance and lack of cutting-edge equipment. It served a singular purpose within those four walls, free from distractions and extraneous elements.

However, as time progressed, the landscape of emergency services evolved, and the radio rooms that once played a central role in fire halls have gradually been replaced by centralized dispatching systems and sophisticated 911 call centers. While these advancements bring undeniable benefits in technology and efficiency, a nostalgic yearning remains for the simplicity and unique camaraderie that thrived within those radio rooms.

In stark contrast, envisioning a revitalized radio room for our Halifax Amateur Radio Club paints an entirely different picture. Unfortunately, our current room has become overwhelmed by various radio gear, transforming it into a cluttered space lacking a clear sense of purpose. Unnecessary items, such as a fridge and unused components, hamper functionality and stifle any potential for creativity or inspiration. We must remember that the effectiveness of a radio room lies not in the novelty of its equipment but in its ability to provide a streamlined environment conducive to efficient communication. I am reminded of the lessons learned from my old fire hall's radio room, where simplicity, cleanliness, and a laser focus on the task at hand significantly enhanced productivity and effectiveness.

That's why I proposed during our last Executive meeting that we embark on a journey to rebuild and redesign our radio room. This presents an extraordinary opportunity to transform it into a vibrant central hub that captures the essence of our club's activities. Through careful planning and a shared vision, we can bid farewell to the current state of clutter and streamline the space, saying goodbye to the overwhelming assortment of unused radio gear and unnecessary items that currently dominate the room. By removing outdated components in the space, we will breathe new life into the radio room, infusing it with the energy of the airwaves.

Imagine a rebuilt radio room that becomes a haven for radio enthusiasts, a welcoming and inviting environment where club members gather to engage in passionate conversations, share experiences, and revel in the captivating sounds of the radio waves. A meticulously designed layout, complemented by modern and purpose-built furniture, will create an atmosphere that fosters socialization, collaboration, and the vibrant exchange of knowledge.

The transformative power of the renewed space extends beyond enhancing our core role of radio communication; it becomes a catalyst for forging stronger bonds among our members. The revitalized radio room will serve as a thriving center that encapsulates the essence of our club, inspiring the passion and enthusiasm of all who step foot within its walls.

However, I must acknowledge the financial challenges that lie ahead as we embark on this project. Exploring grants and funding opportunities will be crucial in securing the necessary resources to bring our vision to life. While we recognize the potential hurdles we may face, we remain steadfast in our commitment to creating a professional and inspiring space for our club members. With determination and resourcefulness, we will seek avenues to alleviate the financial burden and garner the support needed to make our revitalized radio room a reality. By rallying our community and exploring various funding options, we can ensure that our club's central hub reflects the professionalism and pride we aspire to achieve.

Together, we have the ability to turn this once cluttered and uninspiring space into a beacon of inspiration and connection—a true testament to the incredible possibilities that lie ahead for the Halifax Amateur Radio Club. Let us embark on this journey with enthusiasm, collaboration, and a shared dedication to our club's future.

Respectfully submitted: John Bignell, VE1JMB – PRESIDENT- HARC

I want to be 14 again and ruin my life differently. I have new ideas.



I'm on two diets. I wasn't getting enough food on one.



You're not fat, you're just easier to see.

Halifax Amateur Radio Club General Meeting Minutes 17 May 2023

1. Welcome to the HARC monthly meeting for May 17, 2023. Meeting called to order at 1905 by President John Bignell VE1 JMB

2. Acceptance of the Agenda:

Acceptance of Agenda for the May General Meeting

Motion by Brian VA1CC

Second by Jason VE1PYE

Motion passed by vote

3. Approval of the Minutes:

Acceptance of Minutes for April General Meeting

Motion by Ritchie VE1RL

Second by Brian VA1CC

Motion passed by vote

4. Report of any Silent Keys:

No silent keys were reported at the meeting, however there were two at the time prior to the meeting.

Ronald Huybers, VE7IHR ex VY2HR

Kelowna BC April 25th

Donald Hachey, VE9DR

Moncton NB May 15th

5. Correspondence: Nothing to report.

6. President's Report:

John, VE1JMB – Just wanted to talk about Emergency Preparedness Week, we had Ritchie and Ken at the event and wave the flag for HARC, teaching people about what we do, Morse Code, CBC talking about radios. Don Mosher noticed, was quite happy that we were there and thought it was good that we were out in public.

New members taking on new roles, a lot of people are emailing about issues and concerns that they have. A lot of new people have taken on Secretary roles, Presidents roles as myself, Ritchie the first time doing a conference. I just want to acknowledge that I appreciate and the club appreciates these people stepping up and taking on these new roles and responsibilities. As a club, I think we should realize that when they make a mistake, it's okay, it's not the end of the world. I think we should acknowledge the fact that we are all volunteers and we are here for the right reasons and mistakes are going to

happen.

Also as a club, we have passed the milestone of 97 members according to Tim. That's fantastic, it's really great to be back up to those high numbers but when I look at our Flea Market engagement, our conference ticket sales, they are kind of flat. We have more people buying tickets outside of the club for our gala dinner than actually in the club, that's kind of unfortunate. Right now a quarter of the tickets sold are from people outside of the club, outside of Halifax and other areas.

I kind of throw this question out to the membership and ask what do we want to have as a club and what kind of things are important to us? What do we want to put our energy into, if Field Day is not our thing and Clayton can't get people to volunteer, then maybe we adjust what we do for Field Day. Other clubs don't do Field Day, it's just a fun day at the club where they don't worry about the points and maybe that where we want to be. I ask that question. Clayton sent out an email a month ago and he got one response from people interested in Field Day. I hope tonight people are engaged and interested in supporting Field Day and helping him out. I hope Ritchie can get some interest in our 90th anniversary gala and conference, I think it's going to be a very special event.

I know when I talk to people outside the province and in other areas, they are quite excited about it. We have a great slate of speakers, we have the ARRL coming up, RAC is going to be holding their AGM, should be a really great event. I would love to see more people engaged and helping Ritchie and offer to buy tickets.

Station 50 Access Passes, Don Mosher has been very supportive and engaging the executive in deciding who gets passes and who doesn't. If your pass is about to expire it's just a matter of letting us know so we can submit your name so you can go to the Spicer Building and get your pass renewed. If it is expiring, try to give us a months notice before it expires. If you don't have a pass and would like to have one and feel that your role deserves a pass to access the station

for events and activities, then let us know so we can get that sorted out.

7. Treasurer's Report:

Alastair, VE1PAB gave a detailed report of the income and expenses as well as opening and closing balances. Finance statements were shown on screen.

Acceptance of Treasurer Report

Motion by Alastair VE1PAB

Second by Bill VE1MR

Motion passed by vote

Alastair brought up and expense claim for a printer cartridge for Jeremy, This was deferred for the next executive meeting.

8. Station Managers Report:

Don, VE1DTR – We ran in to a problem with the remote station, Mumble is not cooperating and won't transmit. Fraser and I have been trying to diagnose it but nothing so far. Other than that, we have our new Meeting OWL running with Zoom and it seems to be working great.

Dick asked a question about what hardware is running the 147.270 repeater, the response from various people was that it is Motorola MTR2000 and it is about 10 to 15 years old. It is currently being backed up by a battery as it locks up during power outages requiring a visit to reset, it is now working fine as is. There is an antenna issue that has been known for a while but until we can get the zoom boom and get on the tower, our hands are tied.

9. Education Report:

Jason, VE1PYE – We had one inquiry and they were asking if and when there would be an in-person class. Told them that things continue to be online with RAC.

10. QSL Bureau Report:

Roger, VA1RST – We had the QSL Bureau at the SMART Symposium in Springhill and had 25 people pick up 258 cards in total. We will also be at the Flea Market and hope to get rid of more cards before we do the mail out.

11. HATS/SAR report:

HATS:

Gary, VA1GGM – Gary was absent.

SAR Report:

David VE1AJP – We were really busy,

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had a search in the Kidston Lake area for a despondent male. There was no actual point or place last seen but he was said to like to go around Kidston Lake and Long Lake off of Dunbrack. We had a couple of search teams in these areas, helicopters, drones, boats, side scan sonar and found no clue. So we gave it our best shot and we wait and see if anything turns up.

12. Other Reports:

CW Club

Gord, VE1GVY – I had not prepared anything but I can tell you that we have two levels of classes going on. The Basic session has 5 students and the Advanced session has 3 people with 2 more looking to come out. Of you are still wanting to use CW or wanting to get back in to the swing of things, you can come out and join us. On the basic side, we are up to 8 letters and 2 numbers and during the next class we will be sending call signs and 4 or 5 letter words. The advanced side, there is still room to join us, we plan to work up to 10 or 12 words per minute like Dick did with a bunch of us a couple of years ago. We have to schedule built for the Museum, looking for any others even if just for one day a month for the schedule. Just got a note today from the Museum asking us to carpool in order to use the 2 parking spaces.

90th Anniversary:

Ritchie, VE1RL – The Reflector has the plan laid out for August, it is pretty well flushed out and don't see much changes happening. Bill Dyer has reached out to a number of companies on merchandising, hats, name tags, shirts, t-shirts etc and the information is starting to come in this week. We are hoping to have some merchandise for sale.

Brian just returned from Toronto, he had great success with Radioworld in obtaining items for door prizes and raffles. There is a Dual Band Fusion Mobile radio, a Dual Band Fusion handheld radio and a Dual Band handheld radio. There is a 30 amp per supply, hats, log books, gift cards.

Over the last week we have sent out

notices to all of the Atlantic provinces amateur radio clubs, there are 33 clubs in 4 provinces. We got bounce back on a couple of emails. We got a nice letter of congratulations from our friends in Newfoundland and they have members that are looking to attend. Ticket sales have not been stellar but there is money going in to the account. There are tickets being sold but we are nowhere close to where we would like to be. If people are concerned about purchasing their tickets online through Eventbrite, you can pick up the phone or send an email and we can arrange for payment by cheque or cash and get you a ticket.

Other than that, the next major step is to visit Salvation Army and map out where things will be. There is a lot of activities yet to occur and the help would be greatly appreciated.

Flea Market:

Doug and Jeff were both absent.

John – Flea market being organized by Doug and Jeff, tables are going, still 2 power tables available. If people want tables, reach out to Doug or Jeff.

Old Business:

John, VE1JMB – HARC Trailer, trailer is licensed but will need to be checked out and have an MVI done on it before Field Day.

Station 50 Tower Updates

Jason has the antenna at his house and will get it set up and tuned up, we need to figure out when we are going to put it up.

Scholarship Update

Bill, VE1MR – We have not given out any scholarships in the last few years, hasn't been advertised very well. As each year the executive needs to appoint 3 trustees for a 2 year period, this hasn't been done over the last few years either. One trustee is stepping back so we need to get one more trustee. Brian, VA1CC has volunteered to be that trustee. We have about 8,000 dollars and recently invested 7,000 dollars, we can give out a 1500 dollar scholarship. It's open for application and we have extended the deadline until August 18th. Trying to get an ad in TCA but that won't be out until July. John – when mapping out

the conference, we should have a table for the Scholarship to advertise it.

New Business:

John, VE1JMB – Working with the executive to explore actually having in-person classes for people who want it.

Radio Room Spring Cleaning:

Clayton is looking at organizing Field Day and tidying up the radio room to get it ready for visitors and guests. One thing we are hoping to do for June is the Saturday Get On The Air mornings. Clayton would like to have a practice run for Field Day and for people to come in and use the radios, have coffee etc.

Ledwidge Lookoff Rally:

Jason, VE1PYE – Rally is coming up on June 4th, looking for volunteers for radio communications. Looking for about 6 people, if anyone is interested but doesn't have a mobile radio, I have full set up for in a vehicle. If you want to volunteer, contact me.

Dick, VE1AI

In regards to my movement to be made a Life member, I would like to thank everybody who supported me. I have been a member since January 1960 and I am really pleased to be a Life member. I am going through a difficult time right now having had brain surgery followed by a lot of radiation. But I am still able to speak and still able to squeeze the paddles. I want to thank everyone for the support and the phone calls as well as Scott and Brian for keeping everyone abreast of my progress.

Contest University:

Roger, VA1RST – Postedon Tower talk is a contest university that will be going on at Dayton for the Hamvention. Starts tomorrow, the sponsors have funded the live streaming of the university and the talks. I will forward this email to Tim to send out to members if interested.

Motion to adjourn Brian, VA1CC

Meeting adjourned at 2000

*Respectfully submitted by
Ray Armstrong, VA1RAY, HARC
Secretary*

ADSB Aircraft Tracking

Have you ever wondered about that aircraft flying over your head? Perhaps you are already aware that most aircraft are required to transmit location data. Anyone can easily receive that publicly available broadcast data. Maybe you already receive that data and are feeding it to one or more of the flight trackers. This article will help explain the fascinating hobby of aircraft tracking and will help you set up a receiving system or tell you why it is desirable to send the data to other flight trackers.

Most aircraft worldwide are required to transmit data using a system known as ADS-B meaning Automatic Dependent Surveillance-Broadcast. ADS-B is a surveillance technology in which an aircraft determines its position using satellite navigation or other sensors and periodically broadcasts the position, enabling the aircraft to be tracked. The information can be received by air traffic control ground stations as a replacement for secondary surveillance radar, as no interrogation signal is needed from the ground. It can also be transmitted and received point-to-point by other aircraft or ground-based receivers. ADS-B is "automatic" in that it requires no pilot or external input. It is "dependent" in that it depends on data from the aircraft's navigation system. ADS-B currently transmits data on 1090 MHz in a well-defined format. Particularly in the United States, 978 MHz is also used. Generally, all aircraft excluding many military flights will transmit ADS-B. Reception at a ground station near the aircraft is fairly easy. Sometimes, an aircraft does not transmit position information. In that case, a technique called multilateration or MLAT can derive position by using four or more receivers and a technology called Time Difference of Arrival. See <https://www.multilateration.info/surveillance/multilateration.html>.

Building a receiving system is straightforward, requiring only an antenna, a software-defined radio receiver, a processor like an old laptop or a Raspberry Pi, and some readily available open-source software. See below for more details. To feed the received data to a flight tracking service requires an internet connection. You can see the current near real-time worldwide flight information at <https://globe.adsb.fi/>. The real power of this technology, besides the clear advantages for air traffic control, is almost real-time visibility of almost all aircraft. For the hobbyist or enthusiast, a very modest effort will often make a huge difference in the quality of the tracking information. In many areas, large gaps exist in the feeder coverage, and more feeders are always valuable, particularly for MLAT.

Most flight tracker services are for-profit commercial enterprises. They aggregate the data provided usually by volunteers and use that data to make a profit. The exception is adsb.fi. That tracker is community-driven and is operated by a dedicated group of self-described "gentlemen nerds." The tracking data is actually free and is available on at least one flight tracker (adsb.fi) without any restrictions. Often the commercial flight trackers will offer a super platinum premium all-access membership to verified feeders, basically giving access to the same data which is freely available at adsb.fi.

You can find out more about adsb.fi at <https://adsb.fi/>. Several gurus and enthusiasts are behind this growing flight tracker. They are all around the world,

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90th Anniversary On-Air Fun

With the 90th Anniversary Celebration taking place in August, we should look to have some On-Air fun. After all, we are hams! We are planning two FUN activities for July and August. You will want to take part, if only for bragging rights.

The Club has obtained two special callsigns (VC1933 and VC1HARC90) for use by members in July and August. We plan to run a contest during this time period where Club members can checkout and use the special callsigns to make QSOs to gain points. Points will only be obtained if you use one of the two special callsigns. The rules are being worked out and will be posted on the website. We are working hard to set the rules so that everyone can participate on any or all modes, including through repeaters. Scores will be kept and posted on the website.

The second activity will be a QSO Party during the Natal Day weekend (from 0001Z, 05 August 2023 to 2359Z, 6th August 2023). This will be single operator, one callsign, any mode, excluding WARC bands and logs to be submitted. Bruce Wade VE1NB has done a great job developing the rules and scoring. This will be posted to the website shortly.

A number of categories will be setup for prizes and certificates. Maybe even a prize for QSOs made with the oldest radio equipment.

Keep checking the website for new information of activities centered around the 90th Anniversary Celebrations.

Do you have pictures, interesting or funny radio-related story, article or news you would like to share via the HARC Reflector? Please send it/them to Lynn at:

bowser.elliott@ns.sympatico.ca

Please show "For Reflector" on the "Subject" line so I don't miss it. Thanks!.-ed

Dick Grantham Honored with Life Membership Award for Outstanding Contributions to Amateur Radio

The Halifax Amateur Radio Club (HARC) recently celebrated a momentous occasion as Dick Grantham, VE1AI, was granted a distinguished life membership award. This prestigious honour recognizes Dick's exceptional achievements and unwavering commitment to the world of amateur radio. With a remarkable career spanning decades, Dick's invaluable contributions have shaped the field and inspired fellow enthusiasts. Let us delve into his journey, highlighting his remarkable accomplishments in amateur radio.

Dick Grantham's fascination with amateur radio ignited at the tender age of 15, laying the foundation for a lifelong passion. Driven by a boundless curiosity for wireless communication, he embarked on a journey to shape his future and leave an indelible mark on the amateur radio community.

Dick's educational pursuits played a pivotal role in shaping his career in amateur radio. Armed with a B.Sc. and M. Sc. in Electronic Engineering from TUNS (now DalTech), he gained a comprehensive understanding of the theoretical aspects of the field. This solid academic background, coupled with his technical prowess, propelled him to achieve remarkable feats in the realm of amateur radio.

Throughout his professional career, Dick Grantham emerged as a driving force behind the advancements in communication systems. Collaborating with prestigious companies such as MT&T (now Bell Aliant), he made significant contributions to developing cutting-edge communication technologies in Canada. His innovative work paved the way for the evolution of mobile and cellular communications, revolutionizing the telecommunications landscape of the nation.

Dick's passion for amateur radio extended beyond his personal pursuits. Within the HARC community, he became a respected leader and dedicated member. While serving on the HARC Executive Board on multiple occasions, including two distinguished terms as President, Dick's leadership skills and vision propelled the club to heights. His ability to inspire and mentor fellow enthusiasts created a vibrant and engaged amateur radio community.

Dick Grantham's contributions to amateur radio were far-reaching and diverse. He actively participated in various club activities, impacting the community indelibly. Whether organizing Field Days, teaching aspiring radio enthusiasts through the Basic Amateur Radio Certification course, or conducting Morse Code classes, Dick's commitment to knowledge sharing and community engagement was exemplary.

Recognizing the critical importance of emergency communications, Dick played a pivotal role in facilitating effective communication systems in collaboration with HRM's Emergency Management Organization (EMO). His expertise and unwavering dedication ensured reliable and efficient communication channels during times of crisis, underscoring the vital role of amateur radio in emergency preparedness and response.

Among Dick's most notable achievements is his instrumental role in the Maritime Museum of the Atlantic's (MMA) Wireless Room project. Through meticulous planning and execution, he successfully enabled the museum's historic ships to communicate via amateur radio, preserving history and connecting the past with the present. This remarkable endeavor stands as a testament to Dick's dedication to promoting the rich heritage of amateur radio.

The conferral of a life membership upon Dick Grantham by the Halifax Amateur Radio Club serves as a fitting tribute to his outstanding contributions and unwavering commitment to amateur radio. From pioneering advancements in communication systems to his remarkable leadership within HARC, Dick has left an indelible mark on the Canadian amateur radio community. His journey inspires all, showcasing the transformative power of passion, expertise, and dedication in wireless communication.



The Halifax Amateur Radio Club presented Dick Grantham, VE1AI with his Life Membership certificate at the Downeast Flea Market. Several club executive members attended the presentation. Left to right are Dick, VE1AI, John, VE1JMB, Jason, VE1PYE, Brian, VA1CC and Bill, VE1MR. Several other executive members were at the flea market but were unable to be in the photo.





Plenty of good things on tables and lots of people to meet and greet

Kudos to the organizers
Doug, VE1ZG And Jeff, VA1ACE

2023 Downeast Flea Market

Exceeding all expectations

The Downeast Flea Market held in May was an incredible success, exceeding all expectations and leaving a lasting impression on attendees. The event garnered unprecedented enthusiasm, with what felt like a record-breaking number of visitors flocking to the market. The excitement was palpable as people eagerly perused the various tables, hunting for hidden treasures and unique radio gear.

The organizers were thrilled to announce that all available tables were sold out well in advance, a testament to the event's popularity within the ham radio community. The market provided an excellent opportunity for enthusiasts to gather, exchange ideas, and engage in lively discussions about their shared passion for ham radio. It was a day filled with camaraderie as individuals shared stories of their latest projects and offered advice to fellow radio enthusiasts.

Attendees revelled in the abundance of items available for purchase as they eagerly searched for that one missing piece to complete their own radio setup. From vintage radios to cutting-edge equipment, the market offered a wide array of options to suit every taste and interest. It was a true haven for radio enthusiasts to indulge their curiosity and acquire new tools and gadgets to enhance their ham ra-

dio experience.

The event's success was largely attributed to the hard work and dedication of the two event organizers, Jeff Kilbreath and Doug Henry. Their tireless efforts in planning and executing the market paid off in spectacular fashion, as they created a day to remember for everyone involved. Jeff and Doug's meticulous attention to detail ensured a smooth and well-organized event, allowing attendees to focus on enjoying the day and exploring the vast selection of radio gear.

The Downeast Flea Market not only provided a platform for buying and selling radio equipment but also fostered a sense of community among radio enthusiasts. It was a place where lifelong friendships were forged, where mentors and mentees met, and where people discovered new avenues for their radio hobbies. The event served as a reminder of the power of shared interests and the joy of connecting with like-minded individuals.

The Downeast Flea Market held in May will be remembered as a hallmark event for the club in 2023, a day filled with fun, excitement, and the joy of pursuing a shared passion. It served as a reminder of the vibrant and dynamic nature of the ham radio community and the enduring spirit of camaraderie that brings enthusiasts together.

July 1 – RAC Canada Day Contest

This is generally a fun low key contest but can also be quite competitive. This is a chance to work for the All Canada Award. While mainly an HF contest it also uses 6M and 2M.

You will find the rules at the following link:

https://docs.google.com/viewerng/viewer?url=https://www.rac.ca/wp-content/uploads/2023/04/Canada-Day-Contest-Rules-2023-english.pdf&hl=en_US

By scheduling with the Bruce, VE1NB – brucehwade@bellaliant.net or Ritchie, VE1RL – VE1RPL@gmail.com, HARC members can use one of VC1933 or VC1HARC90 from June 23 to August 21 – only one person can use either of the call signs at a time.

Special Event Call Signs for the Coronation of King Charles III May 5 to July 12

To use the special call sign, substitute the prefix normally assigned to your province or territory by the special prefix. For VE1 use CK1 and for VA1 use CJ1.

Perhaps use the special event call sign for the RAC Canada Day contest

(Continued from page 6)

as are the feeders. In order to ensure that the flight tracker remains fully open and accessible, the adsb.fi operators are currently implementing measures to ensure that the site cannot be sold out from under the volunteer feeders and that the tracking information remains publicly accessible.

As mentioned above, building a feeder is a fairly straightforward exercise that would be a very good group or club project. The system consists of only an antenna, a software defined radio receiver, a processor like an old laptop or a Raspberry Pi, and some readily available open-source software. The cost of a Pi-based feeder system can be as low as \$60 to \$350, though use of some available components like an old laptop or computer running Ubuntu will reduce the cost at the expense of increased power consumption. Bear in mind that this article is intended to be an introduction rather than a fully verified step-by-step implementation recipe. Read on for an overview as well as some links to expert advice.

1. Antenna. The frequency of interest is 1090 MHz, and the signals will come from anywhere. Thus, an omnidirectional antenna with some gain is very desirable. An adequate outdoor antenna is at <https://www.ebay.ca/itm/334811187263>. In practice, though, height is considerably more important than antenna gain. Many feeders place an antenna in a house attic with good results, but mounting on an outdoor tower is better. Still, as a starter, a short lower gain antenna like <https://www.nooelec.com/store/sdr/sdr-addons/1090mhz-ads-b-antenna-5dbi-sma.html> is perfectly fine when mounted indoors. Cabling should be 50 ohm low-loss (at 1090 MHz) cable like LMR-200, observing the appropriate connectors and gender and site-dependent length. A cable like <https://www.amazon.ca/dp/B07S8V44VK> is suitable. For outdoor installation, lightning protection like <https://www.amazon.ca/Lightning-Arrestor-N-Female-Protects-Antennas/dp/B07JY6TD2T> is crucial.

2. Software Defined Radio. For a feeder, many SDRs exist, some good and some not so good. Generally, they are implemented as USB plug-in dongles like <https://www.nooelec.com/store/nedr-smartee-sdr.html>. Ideally, look for an SDR that is in a metal case for heat dissipation, has a low-noise amplifier in the front end, and a 1090 MHz band-pass filter. A source for an ideal SDR is being developed by adsb.fi. In the meantime, particularly in areas of high ambient RF noise, adding a filter and low noise amplifier between the above SDR and the antenna will work. Such a device is at <https://www.ebay.ca/itm/266260156842>.

3. Processor. Many feeders use a Raspberry Pi or equivalent, though current availability is problematic. A complete starter kit is at <https://www.pishop.ca/product/raspberry-pi-4b-starter-kit-pro/>. Almost any older laptop or desktop will work very well. The processing load from a feeder is very small. The processor will also require an internet port, with Wi-Fi being a simple implementation. The network usage is also quite small, though definitely dependent on the number of aircraft signals received by the feeder.

4. Software. The operating system of choice is a Linux variant like Raspbian or Debian or Ubuntu. For adsb.fi, the actual ADSB software is open source and easy to implement. The steps below will install and activate the needed software:

- a. Start with fresh up-to-date Raspberry Pi OS Lite installation, or for a laptop, a Linux variant like Ubuntu.
- b. Next install the software that controls the SDR, namely readsb and tar1090 packages by following the explanation at <https://github.com/wiedehopf/adsb-scripts/wiki/Automatic-installation-for-readsb>.
- c. To control and optimize your installation, graphs1090 is extremely useful. <https://github.com/wiedehopf/graphs1090>.
- d. Finally, send the aircraft tracking data to the adsb.fi flight tracking service. <https://github.com/adsbfi/adsb-fi-scripts>.

If you are already a feeder to one of the commercial tracking services, you can easily also feed to adsb.fi. In place of all the instructions above, simply do the adsb.fi software installation described in paragraph 4, step d.

The aircraft tracking system at adsb.fi has a very active and friendly user community, particularly since it is built and maintained by gentlemen nerds. The best way to get support with a feeder is on the adsb.fi Discord server at <https://discord.gg/jfVRF2XRwF> or by an email to help@adsb.fi. Anyone is encouraged to set up a new feeder, or to add adsb.fi to an existing feeder. Currently, almost 1,200 feeders to adsb.fi exist worldwide, and you can easily become one of them!

To make the most of **our web page** please send photos, notices of events, and ham radio news items, etc. to Web Site Content Manager – John Bignell – johnmbignell@gmail.com